## REMARKS

The undersigned and Mr. Leamon wish to again thank Examiners Stimpak and Diaz for the courtesies extended during the Personal Interview on January 28, 2004.

As discussed during the Interview, as a result of new counsel's involvement in this matter, it was determined that the language of pending claims 1-36 did not describe the subject invention with sufficient clarity. As a result, the undersigned, together with the applicants, believe that the prosecution of this important case can be advanced by presenting new claims that describe the invention appropriately. These new claims are included with this Response. Claims 1-36 have been canceled without prejudice or disclaimer, and new claims 37-51 are presented for examination. Reconsideration and favorable action are respectfully requested.

Claims 37 – 51 include three (3) independent claims: 37, 46 and 51. Claims 37 and 46 are method claims; claim 51 describes an apparatus. All independent claims now describe the invention in an appropriate context: a contact center expected to receive contacts *that are not required to be serviced by contact center agents in real-time*, wherein the contact center environment has associated therewith a forecast of contact load expected to occur in each of a set of future time periods within a given future time range. Thus, as discussed during the Interview, the present invention is not simply directed to generating a forecast of contact load expected to occur in each of a set of future time periods (which is the prior art); rather, the invention is directed to methods and apparatus for generating a forecast of how the previously-forecast "contact load expected to occur" is to be handled by the contact center agents. Because contacts "are not required to be serviced by contact center agents in real-time," the present invention presents a different problem from the prior art, and it also presents a novel and non-obvious solution.

As a representative example, method claim 37 goes on to describe how the invention addresses this forecasting issue. First, the method identifies *a given service level goal* for a given future time period within the given future time range of the forecast. The service level goal describes a maximum amount of time that may occur between receipt of a given contact and handling of the given contact, and wherein the given contact comprises a part of the contact load expected to occur during the given time

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period. As was discussed during the Interview, this service level goal is not the "average handling time" associated with the prior art, which is a well-known concept that measures two components: (a) how long the agent spends speaking with the caller (i.e., talk time), and (b) any permitted after-call work time in order to enable the agent to be ready for the next incoming call. The average handling time does not include (for example) the time that the call spends in a queue, waiting to be handled. In contrast, as claimed herein, the "service level goal" is something different – a "maximum amount of time that may occur between receipt of a given contact and the handling of" that contact, with the contact being of the type that is "not required to be serviced … in real-time." This service level goal can vary for each given future time period of the future time range if desired, or a uniform service level goal can be implemented. Either way, for the given future time period of the forecast, the service level goal is then used as described in representative step (b) of claim 37: to *identify a number of time periods over which the contact load in that given future time period may be distributed*. Step (c) of the method further requires that, for the given time period of the forecast, a *given function* be applied to the contact load to distribute the contact load for the given future time period *over a given set of the identified number of time periods*. It is this three step process that transforms the original "forecast of contact load expected to occur" (the prior art) into a forecast of how that contact load *is expected to be handled* by the contact center agents.

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Table 1 from the Written Description, reproduced below, illustrates these concepts. In this example, consider P1 as a representative "given future time period." In this case, assume that the service level goal is 3 hours, which indicates that the contacts expected to occur in this time period (which have been forecast as "10") will then need to be distributed into five (5) subsequent time periods, in this example P2-P6 (assuming each represent a half-hour). This is step (b) in claim 37, namely, identify[ing] a number of time periods over which the contact load in that given time period may be distributed;

TABLE 1

| | P1 | P2 | P3 | P4 | P5 | P6 | P7 | P8 | P9 | P10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Contacts Received/ | 10 | | | | | | | | | |
| Propagated | 0.5 | 1 | 1.5 | 2 | 2.5 | 2.5 | | | | |
| | | 20 | | | | | | | | |
| | | .7 | 2.5 | 3.3 | 4.3 | 4.2 | 4.2 | | | |
| | | | 30 | | | | | | | |
| | | | 4.3 | 4.4 | 5.6 | 5.6 | 5.5 | 5.6 | | |
| | | | | 40 | | | | | | |
| | | | | 5.7 | 7.1 | 7.2 | 7.2 | 7.1 | 5.7 | |
| | | | | | 50 | | | | | |
| | | | | | 8.6 | 8.9 | 8.9 | 8.9 | 7.1 | 7.2 |
| Total Propagated | 0.5 | 2.7 | 7.3 | 15.4 | 28.3 | 28.3 | 25.8 | 21.6 | 12.8 | 7.2 |

Propagation Factors for Each Period

| 1 | 2 | 3 | 4 | 5 | 5 | 5 | 5 | 4 | 4 |
|---|---|---|---|---|---|---|---|---|---|

Step (c) is then illustrated by having the contacts (in this case 10) distributed across a given set of the identified number of time periods. This is accomplished by "applying a given function to the contact load."[1]   In this example, the given function has distributed or "propagated" the 10 contacts across the periods P1-P6 as follows:

[0.5   1   1.5   2   2.5   2.5]

The prior art does not disclose or suggest any such problem (that of determining how certain contacts that are forecast to occur should be forecast to be handled), or any such functionality as now positively claimed. As was discussed at length during the Interview, the Reynolds publication "The Science of Call Center Management" at most teaches a "call center environment" and the associated prior art technique of generating a forecast of a call load expected to occur in each of a set of future time periods within a

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[1] Representative dependent claim 40 describes how the given function may be generated in a representative embodiment.

forecast range, together with scheduling agents to handle that forecast call load. As Mr. Leamon emphasized during the Interview and as pointed out in the Written Description, "calls" to a call center typically are telephone calls that must be handled in real-time or else the call center has not done its job. Such calls are not the claimed "contacts that are not required to be serviced in real-time" according to claim 37, for example. Moreover, the teachings of Reynolds go only to the how forecast call load in a call center environment can be used to generate staffing requirements for that environment using, e.g., traffic engineering formulas such as Erlang C. There is no disclosure or suggestion of how those well-known techniques might be applied to a wholly different problem addressed by the present invention – how to translate a "forecast of contact load expected to occur" into what is tantamount to a forecast of how such contact load expected to occur is expected to be handled.[2]

Reynolds fails to disclose or suggest any of the three steps now positively recited in representative claim 37. The other cited reference, describing the Blue Pumpkin product, does not make up for the deficiencies of the primary reference. The secondary reference, at most, indicates that "contact center management" will have to address how contacts such as web-based or email inquiries will need to be handled. In particular, the Blue Pumpkin reference states that the product described generates employee schedules that ensure effective customer service across these different media types; but, the reference itself *does not say how this done*. There is no mention of how a forecast of any "contact center" load might be created, or how that forecast might be used to generate such schedules. Thus, there is nothing in the Blue Pumpkin reference that meets any limitation of steps (a) – (c) as now described. There is also no motivation or suggestion to combine the Reynolds and Blue Pumpkin references. Moreover, it is respectfully submitted that any such proposed combination (even if it were permissible) would not be the invention of claim 37 taken as a whole.

The Examiner will note that dependent claims 41-45 describe further features of the claimed technique of claim 37. Claim 41 adds the further requirement of generating a

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[2] It was also pointed out during the Interview that the Reynolds technique of creating a forecast of call load expected to occur in a call center environment and using the forecast to facilitate the creation of staffing requirements is also described in numerous patents that are commonly-owned, e.g., U.S. Patent Nos. 5,911,134, 5,325,292, 5,289,368, and 6,044,355.

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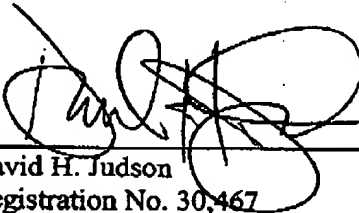
staffing requirement for the given future time period. Claim 42 describes how the process (steps (a) – (c)) are iterated for additional given future time periods in the future time range, and Claim 43 further describes how contacts are aggregated within a given future time period. This is illustrated in Table 1 in the "Total Propagated" line. Claim 44 then further requires that the staffing requirement for each time period is generated from these aggregate values. Claim 45 describes how this is done in a preferred embodiment of the invention. For the reasons set forth above, none of the prior art discloses or suggests any such steps or combinations of steps, as the prior art deals with a different problem entirely as has been described.

Independent method claim 47 and independent apparatus claim 51 are patentable for the reasons set forth above with respect to claim 37.

A three (3) month extension of time has been included to extend the date for response in this matter up through February 2, 2004.

A Notice of Allowance is respectfully requested.

Date: February 2, 2004

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